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The Power of Graphic Organizers: Effects on Students' Word-Learning and Achievement Emotions in Social Studies

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Abstract: The purpose of this study was to investigate the effectiveness of three graphic organizers for teaching vocabulary and the development of the emotions-related to achievement. The study focused on the effects of different types of graphic organizers on word-learning and various emotions in social studies. This study was designed as a quasi-experimental design by utilizing a nonequivalent control group pretest-posttest design. The experimental group was instructed on vocabulary by using the Concept definition map, a Word-questioning strategy and a Circle thinking map for word-learning, while the control group was taught to use the C(2)QU [(Context (2)- Questioning- Using)] as a process of learning new vocabulary from context. The participants of this study were fourth-grade students from a state school in Bayburt, Turkey. The results indicated that the graphic organizers group was more successful than the comparison group in terms of improving general word recognition knowledge and meaningful leaps in acquisition of target word meanings. In addition, it was found that using different types of graphic organizers developed positive achievement emotions (i.e., enjoyment, hope and pride) more than contextual learning process in social studies.

Introduction

Literacy skills and understanding of the world work together to create a continuous cycle of learning for each individual. The more literacy experiences a student has, the better the student will understand of the world. These experiences also help individuals achieve more advanced reading comprehension outcomes (Irvin, Lunstrum, Lynch-Brown, & Shepard, 1995; Vacca, Vacca, & Mraz, 2012). These factors (literacy skills and comprehension development) are interdependent, and they help individuals understand the social issues by activating language and cognitive skills. In this learning cycle, the individuals' vocabulary knowledge works as a catalyst to help solving many problems they may encounter. Here, the range of an individual's vocabulary richness is an indicator of that person's cognitive achievement, and has a direct effect on the individual's social life. For this reason, it is suggested that active learning processes should help students become motivated to be self-regulated learners about further developing their general vocabulary knowledge. The researchers emphasized that there is a strong relationship between vocabulary growth, and the accumulation of knowledge in content-area. This relationship is a good determinant in understanding of the world and constantly increases from early ages (Baumann,

Kame'enui, & Ash, 2003; Rupley, & Slough, 2010; Wanzek, 2014). This process continues with the cycle of learning which is known as extended mapping of cognitive structures (Carey, 1978). It occurs when students learn new words or the meaning of words at school (Blachowicz, Fisher, Ogle, & Watts-Taffe, 2006; Marzano, 2004). As social studies has an intensive content, it is distinctive as it is more closely linked to this learning cycle than other content-areas. Because the social studies is multidisciplinary, and interdisciplinary. Within the school program, social studies provides multidisciplinary connections and creates realistic environments in which young children can learn the core social concepts and use them in their own social lives (Shea, 2011). In other words, social studies aims to teach young children how to live in a democratic society by teaching many important social studies words that enable to them to participate in society actively and help better recognizing the world. Ideally, social studies allows young children to gain a deep understanding of the world by learning new words and compels them to the cycle of learning (Irvin et al., 1995; National Council for the Social Studies [NCSS], 1994). While doing this, students make significant connections between important social concepts as they develop their understanding of social problems or social issues (Blachowicz, & Fisher, 2004; Harmon, Hedrick, & Fox, 2000; Vacca, & Vacca, 2002). All these processes demonstrate that social studies has more unique and specific ties to understanding of the world and literacy than other content-areas. Therefore, there is a symbiotic relationship between social studies, literacy skills and the understanding of the world (Shea, 2011).

Students need to be exposed to a variety of critical concepts related to history and social sciences in social studies courses. The more students learn the core concepts or vocabulary in social studies, the more they have different experiences or points of view, and interests regarding social issues or conditions. Having different perspectives on social studies helps students find reasonable solutions to problems that they encounter in their own life and thereby, designing a rich environment for learning in social studies classrooms can support a strong cognitive component and a metalinguistic structure in students' minds (Billmeyer, & Barton, 2002). Blachowicz and Fisher (2011) suggest that teachers should focus on all aspects of word-learning in order to extend students' general vocabulary knowledge and also to develop their word consciousness or motivation to learn new words. However, the creation of activities that do not center on children in classrooms do not effectively facilitate students self-regulation of word-learning, and vocabulary growth or do not, contribute positively to the development of achievement emotions, as well as reading comprehension in social studies. This is likely because learning a new word or specific concept is a cumulative process that requires understanding many aspects of the word including its meaning, relevant-irrelevant characteristics, synonyms, how to use it in context, rich illustrations, structure and self-definition (Nation, 2008; Pekrun, 2006). For effective word-learning in the classroom, Blachowicz and Fisher (2004) believe that students should be taught to use explicit instruction (e.g., practice, feedback, and good planning, etc.) that encourages them both to learn new words and develop word awareness and love of words. The effective social studies teachers create a word-rich environment to develop an interest and awareness in words and their meanings. Therefore, every social studies teacher should not only build a word-rich classroom environment that develops general vocabulary knowledge, but also present new vocabulary in ways that model good word-learning behaviors, because students need to be surrounded by new words in order to be motivated to learn new words in content-areas (Blachowicz, & Fisher, 2011). The researchers emphasized that vocabulary acquisition is vital to each student's academic development and achievement goals. A word-rich classroom environment in content-area therefore can be very useful, because effective vocabulary instruction models can enhance vocabulary growth and comprehension and also promote students to learn new words (Allen, 1999; Beck, McKeown, & Kucan, 2002; Bromley, 2007).

However, the effective vocabulary instruction involves the use of the interactive strategies for word-learning including vocabulary self-selection, displaying attributes of words visually, a variety of contexts that represent word meanings, playing with words and reference tools (Blachowicz, & Fisher, 2004). For example, graphic organizers or semantic maps in vocabulary instruction can graphically display lists, flowcharts, categorical and, hierarchical information and examples of sentence usage, also semantic relatedness of words along with drawings or pictures (Blachowicz, & Fisher, 2011; Woolley, 2011).

As mentioned above, the present study aimed to investigate the effects of three different types of graphic organizers [GOs] on fourth-grade students' word-learning, and achievement emotions including activity-related and outcome-related emotions experienced in vocabulary instruction process. In this study, the different types of graphic organizers were compared by using a strategy called "C(2)QU [(Context (2)- Questioning- Using)]", which was a powerful means for building vocabulary and facilitating reading comprehension (Blachowicz, 1993). The C(2)QU as a contextual learning process was compared to the different kinds of GOs to determine what the most effective instructional strategy was for increasing students' vocabulary knowledge and fostering achievement emotions in social studies. The main question to be answered by this study follows as: Is teaching social studies' vocabulary by using different types of GOs more effective for word-learning and emotions on achievement than teaching vocabulary through the C(2)QU process alone?

This study was designed to analyze the differences between types of graphic organizers, and contextual learning process in terms of each method's effects on achievement emotions and word-learning process. The research has shown that graphic organizers have been used for promoting deeper processing during reading (Alvermann, 1981; Thompson, 1998), for attaining relational knowledge and for reading adjust to promote reading comprehension (DiCecco, & Gleason, 2002; Dönmez, Yazıcı, & Sabancı, 2007), for recalling and transferring information connected with existing memory (Hall, & Sidio-Hall, 1994; Kiewra et al., 1991), for developing critical thinking (Cassidy, 1989), for enhancing word-learning (İlter, 2015; Vaughn et al., 2008) for improving learning from text (Robinson, & Kiewra, 1995), for a way that assess students' understanding and conceptual change (Kinchin, & Hay, 2000; Ruiz-Primo, & Shavelson, 1996) and for note taking aids (Katayama, & Crooks, 2003). However, when most of the previous research are examined, there are not any studies that show the effect of both graphic organizers and contextual learning process on students' emotions-related to achievement. In other words, the achievement emotions have largely been neglected by educators in content-area (Pekrun, Cusack, Murayama, Elliot, & Thomas, 2014; Pekrun, Goetz, & Titz, 2002a). More specifically, the effect of semantic maps, organizers, as well as contextual learning methods on learners' achievement emotions or achievement goals regarding the test which was assessed has been neglected in social studies. Based on the studies by Pekrun (2006) and Pekrun, Elliot and Maier (2006) a theoretical model, which linked effective vocabulary instruction to subsequent emotions in academic settings was developed. Effective vocabulary instruction is conceived as information about a student's achievement goals, belief and performance in academic settings such as the development of word consciousness, self-regulation of learning process, modeling good word-learning and reading comprehension (Blachowicz, & Fisher, 2011). Because the use of effective strategies promote to facilitate activating positive emotions and independent learning strategies. The model addressed graphic organizers, which are based on students in construction of word-meaning in social studies. It is posited that the instruction with different types of graphic organizers enhances students' word-learning process and subsequent achievement emotions. The research on word-learning and vocabulary instruction in social studies have increased recently but it has still not gained the interest it deserves (Simpson, Stahl, & Francis, 2004), as studies regarding these topics are so few (Baumann, & Kame'enui,

2004; Harmon, Katims, & Whittington, 1999; Harmon, Wood, & Hedrick, 2006; Watts, & Truscott, 1996; Zakas, Browder, Ahlgrim-Delzell, & Heafner, 2013). This study appeared to be somewhat quite promising for future research, because it compared the contextual learning process with three kinds of graphic organizers (e.g., concept definition map, circle thinking map and word questioning chart) in terms of their effects on participants' word-learning and achievement emotions in social studies. Graves and Penn (1986) noted that when vocabulary development and literacy acquisition are neglected in school curricula, students may have significant problems in achieving goals related to social studies, overall academic success and in their social lives. If students' outcomes in achievement situations are neglected in educational settings, their achievement goals, self-regulation of learning, literacy skills, and understanding of the world may be jeopardized. To sum up, learning new words is not a simple issue, and neither is vocabulary instruction in content-area. The use of graphic organizers can facilitate helping students organize and integrate information with their preexisting knowledge and contribute positively to the development of achievement emotions and values (Alvermann, 1981; Pekrun, 2006; Punch, & Robinson 1992; Robinson, & Kiewra, 1995; Stull, & Mayer, 2007). All these indicate that there is much more to be investigated about vocabulary instruction in social studies. The results of this study may help to determine which instructional strategies are more effective for word-learning and instigate achievement emotions by comparing the contextual learning process with the graphic organizers instruction. The study explored the following research hypotheses:

Hypothesis 1. Vocabulary instruction using three different types of GOs has a positive influence on both activity and outcome emotions related to success (positive for enjoyment, hope, and pride); Using three different types of GOs has an influence on both activity and outcome emotions-related to failure (negative for anxiety, boredom, hopelessness, and shame).

Hypothesis 2. Vocabulary instruction using three different types of GOs has a positive influence on word learning.

Method

Participants and design

This research study was designed as quasi-experimental research with pretest/posttest by utilizing a nonequivalent control group methodology design. The quasi-experimental design provides the selection of more than one treatment group randomly assigned (Fraenkel, & Wallen, 2005). The participants in this study were students who were in fourth-grade during the 2013-2014 academic year. They were selected from an elementary school in the moderately sized city of Bayburt in Turkey. The school was located in a middle socioeconomic area in Bayburt. The school consisted of approximately 360 students spanning grades 1-4, with 68 fourth-grade students in three classrooms. The students were randomly assigned to one of two vocabulary instruction conditions in the subject-design. One utilized three different types of graphic organizers instruction condition, which entailed learning new words by using their procedural descriptions (experimental group). The other was the C(2)QU process instruction condition that provided to learn new words from context (control group). The experimental group included 23 students; the control group included 25 students. The participants were composed of 28 girls and 20 boys all in the fourth-grade and 10-11 years old. However, gender or age were not of concern in the present study, nor did they have an effect on data analysis. To assess the equivalence of all treatment conditions, two different types of measures were used by matching participants on the pretest scores. As a result of *t* test analysis, the homogeneity of the pretest regression between the conditions was

not significant for either word-learning or achievement emotions ($p > .05$). The mean pretest raw scores indicated that the treatment conditions were homogenous and reliable for the instructional design. The pretest-posttest control design seems to be a safe and good way to establish internal validity, if the treatment is the sole reason for which posttest scores differ from pretest scores (Mitchell, & Jolley, 2011, p. 319). This result helped to eliminate the bias of the treatment and threats at least to reduce their effects on internal validity (cause-effect) in the study.

Instructors

Two instructors were involved in the treatment conditions in this study. Both of the instructors were male, and had several years' experiences of teaching social studies. The first instructor (as the researcher) was a researcher at Bayburt University in Turkey and had five years' experience of teaching in an elementary school setting. The second instructor was a primary school teacher at the treatment school in the city of Bayburt. The teacher had eight years' experience of teaching in the elementary school setting and was certified to teach social studies in Turkey. To control the teacher effect, particularly because of the differences in his experiences, both the researcher and the teacher counterbalanced each other with respect to the treatment conditions. While the experimental group was taught by the researcher, the teacher taught the control group at the same class period. The researcher modeled the procedures for each treatment condition and gained permission to use the treatment design in the assigned school as the basis for the present study.

Data Collecting Tools

Vocabulary Knowledge Scale

The study aimed to examine the effects of graphic organizers on students' word-learning in social studies. Therefore, the vocabulary knowledge scale (VKS) was used in this study as a measurement to demonstrate changes in the participants' depth of vocabulary knowledge to and infer the target words' meanings (Bruton, 2009). The VKS was developed by Wesche and Paribakht (1996) and the researcher administered its validity and reliability and adapted it to Turkish Language conditions. The VKS format test was used as a pretest for this study to assess the initial knowledge level of the groups related to key vocabulary words. Moreover, Stewart, Batty and Bovee (2012) defined the VKS as it could be used as a posttest measure for vocabulary acquisition after the treatment design. It is a self-assessment measurement that determines the changes reflected in learners' vocabulary levels (Vacca, & Vacca, 2002). The VKS format test has following four responding options/stages.

The sample word in the VKS: Public opinion
(Stage 1) I do not remember having seen this word before,
(Stage 2) I have seen this word before, but I do not know what it means,
(Stage 3) I have seen this word before, and I <u>think</u> it means... (synonym or translation),
(Stage 4) I can use this word in a sentence... (<i>If you do this selection, please also do "Stage 3"</i>)

Table 1: Sample of the target word in the VKS format test

The Stages on the VKS format test present a framework that orient linguistic responds combining performance items and self-report related to vocabulary knowledge (Stewart et al., 2012). Paribakht and Wesche (1993) defined the stages on the VKS ranging from total unfamiliarity to the recognition of the target words or some ideas (i.e., synonym or

translation) of the key words' meanings and, the ability to use the key words in a sentence. To test the participants' vocabulary knowledge in the present research study, the unit topics were then examined in the context of the other social studies units by the researcher. A large set of the target words ($f=25$) with higher frequencies in the unit were more likely to be learned and retained by the students. After the other units were examined, it was found that the participants already knew some of these words well (e.g., *right, justice, independence, media*, etc.), they therefore were removed from the list, leaving 15 vocabulary words that were critical to understanding the content of the unit in social studies.

Scoring of the VKS Format Test

All 15 vocabulary words were alphabetized and presented to the participants who were asked to choose only one of the four self-report stages in the VKS measure (see Table 1). Before the administration of the measure, the researcher prepared an answer key of vocabulary test that demonstrated the meanings, dictionary definitions, synonyms-antonyms, and examples of correct usage in a variety of contexts such as word parts or sentences of the target words in the VKS list. Afterwards, the target word list was presented to Turkish Language experts for language validity. After the expert revisions, some definitions and synonyms-antonyms of the words, as well as the examples of correct usage in the contexts were changed. Some of their meanings were reinforced and widened to facilitate the score. Finally, the answer key of vocabulary test was developed after the reviewing process to assess the participants' pre-and posttests of overall vocabulary knowledge (e.g., knowledge of target words, their meanings or usage in context with semantic appropriateness; Wesche, & Paribakht, 1996). Table 2 presents a complete vocabulary list in the VKS measure.

The target words in the VKS		
Public opinion	Democracy	Municipality
Election	Voters	Ballot
Ballot	Republic	Nation
Citizenship	Government	Sovereignty
Public	Active citizens	Independence

Table 2: All of the target words in the pre-and post VKS format test

The VKS format test required the participants to indicate one of the following: (Stage 1) *Do not know the word*; (Stage 2) *Have seen it, but do not know what it means*; (Stage 3) *Know something about it; can relate it to a situation*; (Stage 4) *Know it well, can explain and use it* (Beck, McKeown, & Kucan, 2002). In scoring the VKS, the scoring starts with 1 point (Stage 1) if the target word is not known or seen. If the target word is familiar, but its meaning is not known, then the scoring is 2 points (Stage 2). Stage (3) reveals whether or not students have an idea about the meaning (i.e., synonym or translation, etc.) of the target word, their accuracy for recognizing the word, or their ability to provide the meaning of the word. This option assumes partial knowledge of the word. Three points are given in case the meanings of the word are known correctly semantically. When students select this option, they can get 3 points. For instance, a participant in this study produced a correct meaning of the target word (*public opinion*) as following: *public opinion*, meaning "people" as a synonym. In the answer key, the meanings for this word were *folk, the sum of thought and community*. The participant wrote that this means *people*. This was considered as the evidence of correct knowledge of the word, accounting for 3 points on the VKS measure. However, if a student does not know the meaning of the target word, 2 points are deducted

from the full score on the VKS. Stage (4) reveals the ability to use words by making sentences (sentential level) with grammatical accuracy and semantic appropriateness in a sentence (Stewart et al., 2012). This option is a level that assesses the participants' active vocabulary knowledge and encourages them to use productively the word in a sentence. Stage (4) is applied in three different scoring levels from 2 to 4 points. If the target word is used with grammatical accuracy and semantic appropriateness in an original sentence, the responding option is given as 4 points (see Table 1). For instance, a participant in the study used the word *public opinion* in an original sentence as following:

"A group publicly protested the municipality because of environmental pollution."

For the word *public opinion*, the participant's sentence was considered as an evidence of the ability to produce a full sentence using the word in terms of grammatical accuracy and semantic appropriateness. Thus, the participant was scored as the highest points (4) on the VKS format test. However, if a sentence generated by a student is marked as semantically accurate, but not grammatical accuracy, the student is given only 3 points on the VKS as in Stage (3). In Stage (4), if generated sentences are marked as incorrect in terms of semantic appropriateness and grammatical accuracy, only 2 points are deducted from the full score on the VKS (Wesche, & Paribakht, 1993).

The process of the Validity and Reliability

To ensure validity, and reliability of the VKS, each self-report level (see Table 1) on the VKS was translated into Turkish Language by an English lecturer and then, to English Language again by another English lecturer for its language equivalence. Hence, the Turkish Language version of the VKS format test was consistent with the original. The translated tests were applied to sixth and seventh grades students ($N=20$) who knew English well enough in a middle school in the city of Bayburt Turkey. A Pearson's correlation analysis was carried out to establish any correlations between the two tests by using SPSS 20.0. Significant correlations (a positive correlation) were also found between the Turkish and English Language versions of the VKS format test ($r=.83, p < .005$). The Turkish Language format test was then applied to the fourth-grade students ($N=300$) at elementary schools in Bayburt to test the compliance of the data collected from the participants with the factor analysis. The VKS format test was subjected to the exploratory factor analysis [EFA] which was reduced through examining each item's (the target words) measure of sampling adequacy. The results of the EFA analysis showed that there was no item that had factor loading below .30. Thus, data set showed a factor structure with all items loading on only one factor (named as *key words*) with an Eigenvalue = 2.98 accounting for 61.45 of the variance and reliability 86.54. The research showed that VKS was extensively cited in the literature as a measurement and a sufficient evidence to support the appropriateness, validity, and reliability of the instrument (Bruton, 2009; Ehsanzadeh, 2012; Host, 2005; Kweon, & Kim, 2008). For example, Stewart et al. (2010) concluded that VKS test was a statistically superior measurement model and substantially verifiable. Therefore, they suggested that it could be used with confidence to assess students' vocabulary knowledge for empirical studies (reliability .90).

Achievement Emotions Questionnaire (AEQ)

In the present study, it was intended to investigate the role of the participants' achievement emotions such as enjoyment of learning, hope, pride, hopelessness, anger, shame, anxiety and boredom in social studies. Therefore, the AEQ (short version), which was developed by Pekrun, Goetz, Frenzel, Barchfeld, & Perry, (2011) to assess the participants' emotions and was based on control-value by Pekrun's (2006) theory of achievement emotions was translated into Turkish Language and adapted to the social studies course by the researcher. According to Pekrun et al. (2011) achievement emotions can be defined as emotions that are tied to achievement outcomes or achievement activities. The instructions for the AEQ assessing emotions-related to achievement in academic settings asked participants to describe how they felt before, during and after the treatment, respectively. According to Pekrun et al. (2002a) achievement emotions affect the motivational, cognitive and regulatory process by mediating achievement goals and self-regulation of learning. Achievement emotions occur in different academic settings, therefore learners' interest, beliefs and motivation to learn are critically important to be developed in content-area. The research has shown that positive achievement emotions have been documented as mediators of the effect of achievement goals on learners' academic performance (Daniels et al., 2009; Mouratidis, Vansteenkiste, Lens, & Auweele, 2009; Pekrun et al. 2006-2009). The AEQ was a successful self-reporting instrument to reveal various emotions directly related to achievement outcomes or achievement activities in different academic settings (Pekrun, Goetz, Titz, & Perry, 2002a). It serves to investigate the linkages between learners' achievement goals and their learning-related and class-related emotions (Pekrun et al., 2011). The experimental research findings indicate that achievement emotions like enjoyment of learning are assumed to facilitate the use of creative and flexible learning strategies. The findings of those research studies suggest that the Achievement Emotions Questionnaire scales can be used to examine various achievement emotions in content-area (Pekrun, 2006; Pekrun et al., 2014).

The process of the Validity and Reliability

The AEQ consisted of a series of eight subscales: (i) positive activity (a) enjoyment and outcomes emotions (b) hope and (c) pride related to success; (ii) negative activity (d) anger and (e) boredom, and outcomes emotions (f) anxiety, (g) shame, and (h) hopelessness related to failure (Pekrun et al., 2014). While activity emotions pertain to ongoing achievement related with learning activities, outcome emotions pertain to the outcomes of these activities in academic settings (Pekrun et al., 2002b). The initial item pool for the AEQ consisted of more than 60 items. From this pool, some items were selected for preliminary versions of the scales by presenting to experts and using semantic redundancy (Pekrun, et al., 2011). The validity and reliability of the AEQ were confirmed with language equivalence as in the VKS format test. The original AEQ questionnaire was translated into Turkish Language by a team of two experts, and then a back translation process was used to ensure the content-related item equivalence. The translated questionnaires were applied to doctoral students in education. In addition, while assessing the consistency of the questionnaire, a highly positive correlation appeared between the Turkish and English Language versions of the questionnaires ($r = .81, p < .001$). After that, the AEQ was adapted to social studies by the researcher and presented to experts for aspect and content validity. After reviewing, the AEQ was applied to 480 students at elementary schools (4th grade) in Bayburt Turkey. The disintegration of the AEQ into unrelated items was examined by using the Varimax rotation

technique. The items that did not fit the structure of the questionnaire (the factor load was lower than .30) and gave a loading to more than one factor were removed from the questionnaire. For its structural validity, exploratory studies were carried out for each subscale in the original questionnaire. The result showed that the factor structure with 30 items regarding the achievement emotions load on eight factors (enjoyment, pride, hope, anger, boredom, anxiety, hopelessness and shame) with an Eigenvalue = 3.98 accounting for 72.10 % of the variance and reliability 82.14. The subscales of the variance and reliability coefficients were the following: enjoyment (51.45%, $\alpha=.78$), pride (51.15%, $\alpha=.80$), hope (61.56%, $\alpha=.79$), anger (73.95%, $\alpha=.79$), boredom (61.35%, $\alpha=.81$), anxiety (63.92%, $\alpha=.78$), hopelessness (49.05%, $\alpha=.82$) and shame (61.12%, $\alpha=.85$). A 5- point Likert scale was used to record item responses (1 = *completely disagree*, 5 = *completely agree*). Finally, the AEQ scale items served to instruct participants to report how they felt learning new words, when attending learning activities, studying in pairs in the class in terms of the learning and class-related enjoyment, pride, hope, anxiety, anger, hopelessness and shame (Pekrun et al., 2011).

Instructional Procedures

All the conditions received their instructional treatment in approximately 7 weeks in social studies course. The school day included 40-minute periods for each lesson during the instructional design process. To begin, the researcher provided one day of professional development in social studies for implementing instructional practices. The training program focused on an overview of the research, the description of the treatment, the importance of adhering to the research design, the fidelity of each condition, the lesson plans, and finally what the researcher expected of the study. The lesson plans were formed according to social studies curriculum scope and sequence. Each lesson was limited to the facts, key concepts, and social studies vocabulary related to the theme of ‘power, governance, and society’ in the social studies. It provided the teacher with a framework explaining how the instructional practices would be embedded in social studies instruction in the control group. On the first day of the treatment, the researcher who was administering the research design together with the teacher explained the purpose and overview of the treatment to the control group students. During the first week of instructional design, the researcher conducted a demonstration lesson to model good word-learning behaviors using the contextual methods such as (a) using explicit contexts to present new vocabulary, (b) learning vocabulary from context by using cues, (b) guiding semantic interpretation of the words from context clues to develop word-meaning (Beck, Perfetti, & McKeown, 1982), (d) providing a discussion or monitoring the learning process. The teacher could request onsite modeling of the lesson components throughout the duration of the instructional treatment depending on needs.

A critical element of this research study design was that the students in both the experimental and control groups covered the same period of time and the same reading texts from the same textbook. To establish the study’s internal validity, the researcher had to show not only that the treatment group behaved differently than the comparison group (control group) but also that the treatment manipulation rather than something else. To eliminate biases (e.g., how the researcher wants the participant to behave) and major threats for the study, both the researcher and teacher administered the same period and same reading texts and were responsible for their own treatment conditions (Mitchell, & Jolley, 1992). Before the instructional treatment, both the experimental and control groups completed the pre-VKS format test (self-report of vocabulary knowledge, Stewart et al., 2012) and AEQ. Moreover,

after the treatment, all the participants in both conditions were informed by the researcher about the treatment that the measures would not affect their course grades.

The instructional applications in the experimental group

The instructional treatment in the experimental group was administered by the researcher. Students in the experimental group received an instructional design during regularly scheduled class periods. The instruction was implemented for 40 minutes, three days a week in social studies classrooms. Typically, the instruction included the selected reading texts from the social studies textbook using three types of graphic organizers [GOs]. The GOs were used to promote language and cognitive skills in word-learning by providing connections among and between key concepts as the base to enable storing high-level concepts in different forms through the processes of linguistic and non-linguistic processes (Billmeyer, & Barton, 2002; Graves, 2004; Harmon, & Hedrick, 2000). The students were provided with a word-learning environment in which they could share their knowledge and experiences about the target words that they would learn in the social studies throughout the instructional treatment. The researcher used “think-pair-share” strategy as a means of developing group work skills, discussing meanings of words, and sharing them with partners (McTighe, & Lyman, 1988).

The daily instructional routine in the experimental group consisted of the following exercises: (a) modeling graphic organizers, (b) guidance practice in which students practice graphic organizers, (c) a reading comprehension task reading the selected text from the textbook (d) generating questions about the reading text to check students’ comprehension, (e) filling in organizers with more explicit visuals to build vocabulary, (f) using target words in a clarifying sentence that is relevant to students’ pre-existing knowledge, (g) discussing words meanings, generating sentences and organizers, (h) hanging the organizers on classroom walls on which students can see and be proud of their products.

Three different types of graphic organizers were used in the experimental group for vocabulary instruction. They were; (i) Concept definition map (compare and contrasts, identify properties, categories, illustrations; Schwartz, & Raphael, 1985), (ii) Circle thinking map (defining word context, generating ideas, visual representations, presenting points of view, identifying frame of references of the key word; Hyerle, 1993) and (iii) Word questioning strategy (defining the key word including comprehension such as illustrating the meaning of a word in the context, application such as example-nonexamples, analysis, knowledge, synthesis and evaluating level; Allen, 1999). All the lessons incorporated these graphic organizers. The vocabulary instruction steps in the experimental group were as following:

Step 1: This condition was the modeling step: The researcher displayed all graphic organizers on the overhead projector and explained the purposes, components, spatial arrangement of elements, and functions of each. After this brief introduction, the researcher showed the students how these organizers were used and described their worth in terms of word-learning.

Step 2: The second step was guided practice in which students examined the reading text and generated organizers as a group. The teacher generated the sample of some GOs in the class. The graphic organizers were illustrated as hierarchy flowchart, list, compare and contrast matrix. The sample of GOs contained key word (what is it?), similarities (what is like?), characteristics, and illustrations (what are some examples?) of some salient vocabulary in other social studies units before having students engaged in the word mapping process. Students were then asked to read all the contents in the graphic organizers, and were allowed to examine them for approximately 5-10 minutes. Afterwards, the researcher asked students

to read the text selection silently, then posed inferential comprehension questions to the class about the title of the chapter, the headings, and the subordinate ideas related to the major idea in the text. When the students failed to answer these comprehension questions, the relevant parts of the text selection were reread and then the questions were repeated.

Step 3: The application based on the cooperation process in which students worked to practice the graphic organizers. When students were trained, they were given an opportunity to construct the GOs with their partners. At this time, students were asked to read the text again and highlight the words that they did not know. The researcher provided the materials (i.e., color pen, paperboard, sheets, etc.) and asked the students to identify key concepts and their semantic relationships independently for 1- 2 minutes. They were then asked to pair with a classmate to discuss and share the target words and their meanings or usage. The students were allowed to review the text material when they were unable to recall the information in the text. Afterwards, the students were given an opportunity to fill in the organizers (e.g., word-questioning organizer) in pairs under the guidance of the researcher. When the students constructed their own organizer in pairs, they were challenged to think deeply about how to select and organizer information from the text (Stull, & Mayer, 2007). This process is referred as learning by doing. When they had any troubles with filling the graphic organizer, the researcher assisted them and gave them the correct feedback.

Finally, during the instructional treatment process in the experimental group, each target word was defined at different levels including comprehension, application, analysis synthesis and evaluation. Examples-non-examples and illustrations-visual cues were uncovered by the students via three kinds of graphic organizers. Moreover, the researcher asked students to produce a sentence with semantic appropriateness and grammatical accuracy related to the context that contained social studies information using each target word. Because it was expected that students could produce a self-definition or new meaning for the target words, then use them accurately in a sentence. Afterward, students were given an opportunity to discuss the generated-sentences with their partners to facilitate recalling the information and reinforce a deep processing for elaboration of the new word understanding of the words. The researcher tested the accuracy of student-generated sentences semantically and grammatically, and then gave constructive feedback as needed. At the end of each lesson, students were encouraged to present their organizers in the classroom. The researcher acted as a vocabulary director and helped the students prepare materials for the key words (Błachowicz, 1993). After presenting the organizers, the researcher provided a cumulative assessment of the complete graphic organizers using vocabulary words.

The control group instructional treatment lessons

The students in the control group received an instruction within the same period and the same chapter in the same textbook, which was typically used by their teacher for social studies. The C(2)QU process [Context (2)- Questioning- Using] developed by Błachowicz (1993) was used in order to learn new words from context. It is a good metacognitive process for presenting specific vocabulary or learning the meanings of new words with both definitional and contextual information factors, therefore building vocabulary knowledge. A contextual inference approach the C(2)QU helps learners figure out word meanings from a meaning context, and provides rich discussion and self-monitoring in comprehension and learning vocabularies in classrooms (Blachowicz, 1993). The purpose of C(2)QU is to present both contextual (inference) and definitional information about new words or specific terms to students in a way that allows them to articulate the context cues that lead to a hypothesis

about keyword meanings, and to refine and use them supporting by exemplary sentences or a text (Blachowicz, & Fisher, 2011, p. 40).

As in the experimental group, the control group students were allowed to work in cooperative groups with the same reading material, but without the use of any graphic organizers or visual cues. Typically, the teacher and the students participated in a teaching activity that focused on the C(2)QU materials such as use of cues from meaningful word part or sentences within the texts in the textbook. The students were paired to ensure that partners work on activities, discuss the meanings of the target words, and generate meanings for approximately 20–30 minutes during a 40-minute lesson. Reviewing text materials such as dictionary or glossary, teacher-generated sentences and comprehension questions, colored pencils to highlight, explicit context, context clues in the reading text were used more often. The daily instructional routine in the control group according to the steps in the C(2)QU loop can be presented as the following (Antonacci, & O'Callaghan, 2011; Blachowicz, & Fisher, 2011).

Before Reading: Initially, select the target words that are vital to understand the reading text and write them on the chalkboard by pronouncing.

During Reading:

Step 1- C1 [Context]: Ask students to read the text aloud and pose some comprehension questions within the reading text. Present the target word in a broad, but meaningful context with clues that will assist students to guess the meaning of the word. This may include word parts, a sentence or exemplary sentences from the text selection where the target words appear. Ask students to highlight the unknown words that surround the known word in the text and to look for clues within the word by highlighting with a different color. After studying the clues, guide them to infer meanings in order to lead to a deep understanding of words and to generate a hypotheses or guess the meaning of the word by using context clues in pairs. Promote students to a think-aloud the process to explain the source of the hypotheses to the study group.

Step 2- C2 [Context]: Provide a more explicit context from the text or a sentence that has multiple context clues on the chalkboard to reinforce the meaning of the target word. Ask students to reflect on their initial knowledge related to the target word and to reaffirm or refine them again in a 'think-aloud' mode. Encourage students to figure out the meaning of the target word using all contexts clues and direct them to use their dictionary or the glossary to check their hypotheses or guesses. When students have difficulty in identifying the words and text clues, teacher can work together with them.

Step 3- Q [Questioning]: Pose some questions that involve semantic interpretation of the target words in the presented contexts to find out whether students have comprehended the text material or sentences or not. Ask students to generate some self-definitions or meanings for the words to create a deep understanding of the target words. Conduct a productive discussion with students about the words' meanings, ask them to summarize the major points in the text, and allow them to use their cues, explanations, and definitions in the dictionary for more data.

Step 4- U [Usage]: Give students an opportunity to use the target words in meaningful exemplary sentences within the context clues and the meanings that have been inferred from the contexts or dictionary definitions. Ask students to give examples of attributes. In this step, the target words are used with grammatical accuracy and semantic appropriateness in a sentence by students. Therefore, give enough time for student groups to practice together while monitoring their word-learning process. Students can read the text and practice this process several times for deriving meaning of the target words from word or text clues. Go back into the C(2)QU loop for teaching each target word item as needed in the classroom.

Results

Results for Study 1: Achievement Emotions

Both three types of graphic organizers and C(2)QU process had an effect on the participants' activity-related and outcomes-related achievement emotions. Analysis of the pretest scores indicated no significant differences between the treatment sections for the achievement emotions [$t = .650, p > .05$]. Univariate (ANOVA) analysis was performed to determine whether there were any significant differences between the two groups. The means and standard deviations of the AEQ scores of the treatment conditions in the posttest were displayed in Table 3.

Emotions	GOs Group		C(2)QU Group (No GOs)		$F(2,47)$	d^a
	M	SD	M	SD		
Enjoyment	3.78	0.87	2.26	0.67	7.01**	0.23
Hope	3.18	1.21	2.57	0.65	9.77*	0.41
Pride	3.13	1.45	2.21	0.77	7.21*	0.45
Anxiety	1.23	0.78	2.83	0.95	9.21**	-0.38
Shame	1.89	0.88	2.01	0.96	4.01	-0.67
Boredom	1.20	0.87	2.78	0.65	5.67**	-0.65
Hopelessness	1.52	0.71	2.75	1.24	6.39	-0.78
Anger	1.35	0.66	2.64	0.90	8.56*	-0.44

Note= GOs Group= The experimental group ($N=23$); C(2)QU Group = The control group ($N=25$).

* $p < .05$, ** $p < .01$, ^a Effect sizes (d) for differences between means in the treatment conditions

Table 3: Achievement Emotions in the Treatment Conditions: Means, standard deviations and effect sizes

Table 3 displays the average of the posttest data scores of both the experimental and control conditions. A multiple comparison procedure showed that for positive activity and outcome related emotions; both the GOs instruction and C(2)QU process had a significant effect on enjoyment, ($F = 7.01, p < .01$), hope ($F = 9.77, p < .05$), and pride emotions ($F = 7.21, p < .05$). Furthermore, the results demonstrated that positive emotions such as enjoyment, hope and pride were significantly higher in the experimental group than in the comparison group after the treatment ($p < .05$). Effect sizes for the differences between the two groups were small to large ($d = .23$ to $.45$; Table 3). Conversely, in the analysis for negative emotions, each vocabulary instruction had a significant effect on the two negative activity-related emotions of anger ($F = 8.56, p < .05$) and boredom ($F = 5.67, p < .01$) also one negative outcome on the emotions of anxiety ($F = 9.21, p < .01$). A multiple comparison test showed that the negative emotions of anxiety, shame, boredom, hopelessness and anger were lower in the experimental group than the comparison group after the treatment. On the AEQ posttest, emotions of hopelessness and shame as negative outcome emotions were higher in the control group than in the experimental group. However, the differences between the two groups were not significant ($p > .05$). Effect sizes for differences between means in the treatment conditions were medium to large ($d = -.38$ to $-.78$; Table 3).

Results for Study 2: Word-Learning

Another hypothesis studied in the study was whether there was a significant difference or not between the treatment conditions in terms of participants' word-learning. Table 4 presents the means and standard deviations between each self-report level on the VKS format

test for vocabulary knowledge scores of pre-and posttests. As in the Study 1, the analysis of the pretest VKS format data scores indicated no significant differences between the treatment sections for word-learning [$t=1.50$, $p > .05$].

Self-Report Levels	GOs Group				C(2)QU Group (No GOs)				$F(2,47)$	d^a
	Pretest		Posttest		Pretest		Posttest			
	M	SD	M	SD	M	SD	M	SD		
Stage 1	7.73	1.71	1.89	0.57	8.10	0.61	2.07	0.97	4.15	0.34
Stage 2	5.81	1.76	2.17	2.40	4.98	1.22	3.34	0.66	6.46**	0.38
Stage 3	4.06	0.89	5.49	1.56	3.87	1.11	4.12	0.88	9.33*	0.41
Stage 4	3.12	1.28	11.89	0.43	3.02	0.66	8.67	0.76	2.31**	0.58

Note= $N=48$. Self-report levels of I or II were assigned to Stages 1 or 2, respectively. Stage 1= Do not know the word, Stage 2= Have seen it, but do not know what it means, Stage 3= Know something about it, can relate it to a situation, Stage 4= Know it well, can explain and use it.

^a Effect sizes (d) for differences between means in treatment conditions, * $p < .05$, ** $p < .01$.

Table 4. Self-Report Levels on the VKS Format Test in the Treatment Conditions: Means, standard deviations and effect sizes

As Table 4 shows, under the experimental group, for the mean scores of the self-report levels of vocabulary knowledge in the VKS measure posttest, Stage 1 ($M=1.89$, $SD=0.57$) and Stage 2 ($M=2.17$, $SD=2.40$) were lower than the means in the pretest ($M=7.73$, $SD=1.71$; $M=5.81$, $SD=1.76$), respectively. However, the mean scores of Stage 3 ($M=5.49$, $SD=1.56$) and Stage 4 ($M=11.89$, $SD=0.43$) in the posttest were higher than the means in the pretest ($M=4.06$, $SD=0.89$; $M=3.12$, $SD=1.28$). Similar results were found for the control group, following the self-report sections. The mean scores of Stage 1 ($M=8.10$, $SD=0.61$) and Stage 2 ($M=4.98$, $SD=1.22$) in the pretest were higher than the means in the posttest ($M=2.07$, $SD=0.97$; $M=3.34$, $SD=0.66$); whereas, Stage 3 ($M=3.87$, $SD=1.11$) and Stage 4 ($M=3.02$, $SD=0.66$) in the pretest were lower than the means in the posttest ($M=4.12$, $SD=0.88$; $M=8.67$, $SD=0.76$). The results indicated that both the GOs and C(2)QU process instruction models in word-learning clearly led to higher scores in the self-report levels on the VKS format posttest compared with the pretest scores. However, for Stages 2 and 3 of the VKS format test, the results of the descriptive analysis showed that these self-report levels were significantly lower in the experimental group than in the control group after the process of the treatment. Furthermore, another important finding in this study was that the mean scores in Stage 4 were significantly higher in the experimental group than in the comparison group ($M=11.89$ versus $M=8.76$; see Table 4). Separated analyses of the results demonstrated that the graphic organizers group scored better than the C(2)QU process group in four self-report levels on the VKS-format test. Univariate analysis was performed to see whether there were any significant differences between the two groups.

As clearly depicted in Table 4, the analysis of group differences on each self-report level on the VKS indicated that the two different types of vocabulary instruction programs did not have a significant difference on Stage 1 (Do not know the word) between the treatment sections ($F = 1.43$, $p > .05$), whereas it was found to have a significant effect in Stage 2 (Have seen it, but don't know what it means) ($F = 1.43$, $p < .01$), Stage 3 ($F = 1.43$, $p < .05$) and Stage 4 ($F = 1.43$, $p < .01$), respectively. Effect sizes for differences between means in the groups were substantial with $d = .34$, $.38$, $.41$, and $.58$ (see Table 4). In addition, in the analysis of the self-report level in Stage 4 on the VKS, the results showed that the experimental group students had knowledge of the meaning of the target words and grammatical and semantic usage more than the control group students did. Overall, the results demonstrated that the experimental group performed the development of vocabulary

knowledge better than the comparison group. The findings suggest that the GOs' instruction advantage was found in the number of key words for which the students demonstrated more vocabulary gains in the depth of knowledge than the use of C(2)QU as a contextual learning process.

Discussion and Conclusions

The results of this study supported two conclusions regarding the graphic organizers instruction including concept definition map, word-questioning strategy and circle thinking map in social studies. The first purpose was to investigate these three different types of graphic organizers on students' emotions-related to achievement in social studies. The second purpose was to explore the effects of these organizers on students' word-learning process.

Effects of graphic organizers on achievement emotions

In line with Hypothesis 1, two different types of vocabulary instructions in word-learning had clear effects on participants' development of achievement emotions (positive and negative affect). The high-scores surpassed the low scores in the level of positive achievement emotions in both conditions after the treatment design. The analysis of each positive achievement emotions (i.e., enjoyment, pride and hope) in the AEQ showed that the comparison group increased both positive activity-related and outcome-related emotions through the C(2)QU process. This finding indicated that the students benefited from the C(2)QU process and enjoyed learning new words directly from the presented contexts in social studies. The result confirmed that it was a fun and powerful contextual method on the development of students' motivation and beliefs to learn new words (Blachowicz, 1993). Regarding the C(2)QU, the research has shown that contextual conditions mediated the engagement independently, achievement, interest or beliefs in vocabulary instruction or word-learning, as well as the achievement in reading comprehension (Nagy, Anderson, & Herman, 1987; Nelson, & Stage, 2007). Thus, contextual methods such as sentence game, metacognitive context instruction, that create a personal context or cartoon context (Blachowicz, & Fisher, 2011), as well as the C(2)QU are likely operative in the development of success related emotions like enjoyment and hope. For example, Gao and Ma (2011) found in their study that integration of vocabulary learning strategies, including contextual methods, fixed meaning and list learning improved participants' vocabulary learning beliefs and enhanced their motivation to develop new word knowledge. However, despite the significantly different performance of the C(2)QU on the achievement emotions, it did not seem to assist the students in enhancing more positive outcome emotions of pride and hope, particularly activity-related emotions of enjoyment regarding vocabulary tasks, compared with the experimental group results. The finding from this study has showed that the C(2)QU process clearly evoked less attention on achievement emotions compared with the vocabulary teaching conducted by using different types of GOs in vocabulary learning, whereas the GOs had a strong effect on the students' achievement emotions in word-learning. Because it was found that the GOs' instruction indicated a positive trend with regard to emotions of pride, hope and enjoyment related to word-learning activities more than the comparison group. The students' emotions may be elicited simultaneously by a wide range of achievement settings such as attending word-mapping practices that support graphical representation, experiencing the pride of maps, changing the expectations on learning new words via different types of GOs that preceded the emotions.

These assumptions may be confirmed by the control-value theory of the cognitive-motivational model on emotions effects (Pekrun, 2006; Pekrun et al., 2002a). According to this theory, emotions interact with language and cognitive process, and can profoundly affect students' motivation and learning outcomes when they experience a rich learning environment that is appropriate for their current development. Many mediating mechanisms may be posited to be responsible for these significant effects such as (i) academic feedback, (ii) students' motivation, (iii) authentic learning tasks, (iv) shaping instructional material, (v) strengthening positive expectancies and (vi) self-collection in learning (Daniels, Stupnisky, Pekrun, Haynes, Perry, & Newall, 2009; Krapp, 2005; Pekrun et al. 2006; Murayama, & Elliot, 2009). Researchers suggest that teachers should build a word-rich environment including visualization in graphics or drawings, which enhances motivation, engaging in a process of attaining knowledge and ensuring greater satisfaction and interest in content-area word-learning (Blachowicz, & Fisher, 2004; Blachowicz, Fisher, & Ogle, 2006; Egan, 1999). This result is also in line with the visual hypothesis (Vekiri, 2002). According to this hypothesis, the use of visual spatial materials can facilitate processing of meaningful information (Larkin, & Simon, 1987) and make concrete learning outcomes (Blachowicz, Fisher, Ogle, & Watts-Taffe, 2013). For example, the more a student uses explicitly visual-spatial representations (e.g., diagrams, patterns, learning with shape or drawing, etc.) to build vocabulary, the more the student is likely to be successful in redefining (self-definition), remembering and applying the words to meaningful prompts (Bromley, 2007). Pekrun et al. (2002a) noted that when learners are motivated for academic achievement or academic goals in this environment, they can be successful in regulating their self-emotions positively. As researchers indicate that an instruction via different types of GOs could be effective in promoting students to learn new words and directly foster emotions positively related to learning activities. This finding confirmed that achievement emotions (i.e., enjoyment, pride and hope) is instigated when a rich learning environment is experienced as both controllable and valuable (Pekrun et al., 2011). For the initial study hypothesis, the result demonstrated that the hypothesized relations between the different types of GOs' instruction and positive achievement emotions were confirmed through the experimental runs. Moreover, in line with Hypothesis 1, the research results have largely suggested that graphic representations are likely to be highly powerful and motivational tools, which can greatly increase word-learning rate. At this point, they can encourage students to enhance achievement emotions and word-learning beliefs positively (Graves, 2006).

Effects of graphic organizers on word-learning

Consistent with Hypothesis 2, the vocabulary instruction via three different types of graphic organizers had substantial effects on participants' word-learning process in social studies. The results showed a strong effect of GOs on the growth of vocabulary knowledge of the students. Each component in the self-report level on the VKS format test was addressed in the study to determine whether there were any significant differences between the two groups. Comparison between the treatment conditions in the VKS posttest revealed that both GOs and C(2)Q2 process led to significant gains on the development of vocabulary knowledge and enhanced contextual word knowledge. It was found that the GOs instruction assisted the students to be more successful on meaningful leaps of vocabulary knowledge and enhanced word meaning acquisition (Stewart et al., 2012) compared with the C(2)Q2. The comparison group used a variety of vocabulary instruction activities to learn new words. For example, contextual support for each key word, inferring meanings of key words in contexts, highlighting key words clues, generating a hypothesis, using a dictionary to confirm the hypothesis, etc. (Blachowicz et al., 2013). In spite of these activities, the findings indicated

that the GOs instruction showed more meaningful leaps in Stage 1 (Do not know the word, 1.89 versus 2.07) and Stages 2 (Have seen it, but do not know what it means, 2.17 versus 3.34) on the VKS format test than C(2)QU process after the treatment. As a result, the GOs instruction provided more familiarity and general recognition of the knowledge of the target words than the C(2)QU. This outcome suggested that using graphic organizers in teaching content was more successful at recognizing-word meanings and matching words with definitions or synonyms (Wesche, & Paribakht, 1996) rather than the contextual learning process. Another critical finding from this study was that significant differences were found between the two groups on the self-report levels of Stages 3 and 4 on the VKS. It was found that the biggest development was in the experimental group, in which the students had more ideas about the meanings of the target words, such as synonyms or translations in Stage 3 (Know something about it, can relate it to a situation) than the comparison group (5.49 versus 4.12). Furthermore, according to the results of Stage 4 on the VKS posttest, it was found that the experimental group had significant knowledge of the target words and produced many self-definitions or new meanings in a variety of generated-sentences, which were both semantically and grammatically accurate better than the comparison group (Know it well, can explain and use it; 11.89 versus 8.67). The results demonstrated that different types of GOs instruction helped students use words and their meanings more widely and more productively than the contextual learning process. The research has shown that vocabulary instruction based on graphic organizers promotes learners to understand that words have many levels of meanings, which go beyond dictionary definitions and encourage the application of personal knowledge (DiCecco, & Gleason, 2002; Schwartz, 1988; Stahl, & Fairbanks, 1986; Vaughn et al., 2008). This finding confirms that using learning from context do not always reveal the meanings of new words or semantic relatedness of words to other words. Indeed, they are sometimes misleading or insufficient (Blachowicz et al., 2006; Schatz, & Baldwin, 1986). Blachowicz and Fisher (2011) emphasized that the contextual learning process should be used with scaffolded explicit instruction including words and their meanings into graphic form such as a semantic map or webs, displaying attributes of word meanings graphically or a memory organizer for later use. The analyses of all the measures showed that the use of different GOs lead to learning new words, as well as promoted positive activity and outcome emotions (such as enjoyment, pride and hope) in social studies. Judging from the results of the study, it may be deduced from the findings that these positive emotions proved to be beneficial for the students' word-learning process. The results suggest that the use of different graphic organizers in vocabulary instruction can help sustaining positive emotions in learning new words, can also reduce negative emotions related to failure (such as hopelessness, shame, anger and anxious) in educational settings. The use of graphic organizers seems vitally important for activating positive emotions, developing word consciousness [an awareness and interest in words and their meanings] and strengthening motivation for learning words (Blachowicz, & Fisher, 2011; Pekrun, 2006). Finally, the results of this study demonstrated that graphic organizers are powerful predictors and pedagogical tools for fostering vocabulary development and inducing achievement emotions that positively enhance as a result of the treatment (Kim, Vaughn, Wanzek, & Wei, 2004; Novak, & Gowin, 1984).

Limitations and Implications

There are some limitations of this present study that should be noted and that may be used to suggest directions for future research. First, the sample in this study was rather small, and generalization to a larger population of fourth-grade students was limited. Second, the participants' word-learning process and achievement emotions including activity-related and outcome-related emotions in social studies were achieved in approximately 7 weeks. Third, only three different types of graphic organizers were examined, including a concept-definition map, a word questioning strategy, and a circle thinking map. Fourth, the comparison group was taught the content with only one contextual instructional method [i.e. C(2)QU process] without using any maps, organizers, visual aids or cues. Therefore, future research should attend to other contextual instructional methods (e.g., context clues chart, sentence game, and cartoon context, etc. Antonacci, & O'Callaghan, 2011; Blachowicz, & Fisher, 2011) that accompany graphic organizers on students' word-learning process, as well as the development of achievement emotions. Furthermore, this study was aimed to investigate the effects of the graphic organizers on word-learning and achievement emotions in social studies, but did not consider the influence on reading comprehension. Both graphic organizers and contextual information factors have a positive influence on reading comprehension, as well as the building vocabulary knowledge (Vacca, & Vacca, 2002). Future research should examine the role of both graphic organizers or C(2)QU that models contextual learning in the development of reading comprehension. Overall, the findings of this study hold several implications for educational practices in social studies. First, as an experimental study, this study calls for more extensive research on vocabulary instruction in social studies that would include emotions experienced in academic settings and word-learning to elucidate the role of graphic organizers in educational settings. Because there is a critical need to create awareness that, the use of effective word-learning strategies should be incorporated into social studies classrooms, not only to build vocabulary knowledge, but also aid to enhance achievement. Second, achievement emotions would lead students to expect learning new words in classroom settings therefore, there will be a need to conduct more experimental studies on how to foster students' achievement emotions in the near future. Third, AEQ can be used to assess students' emotions related to achievement outcomes in social studies to design emotionally effective learning environments. It may also be well-suited to serve practical purpose for assessment in word-learning. Finally, teachers should attend to students' achievement emotions, which they experience via a variety of activities by creating a word-rich environment that develops word consciousness, gain a depth of word knowledge and models good word-learning behaviors.

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